

SCIENCE & EDUCATION **Impact**

Benefits from USDA/Land-Grant Partnership

Coping with Disaster

Preparation and assistance ease the consequences of natural disasters.

Wildfires, damaging frost, hurricanes, drought and floods disrupt lives and wreak massive damage. Drought, for example, plagues at least 10 percent of the nation annually, exacting a toll of \$6 billion to \$8 billion. USDA and Land-Grant university scientists provide information that can help people prepare for natural disasters and to cope in the aftermath.

Payoff

- **How dry I am. Alabama** Extension coordinated a statewide haylift, delivering more than 18 million pounds of hay to producers in 34 counties. As a result of **Montana State's** educational programs addressing pasture overuse and hay shortages, acreage of cereal grains seeded for forage is expected to increase 25 percent to 30 percent in 2001, with a potential gross increase of \$2 million in hay production. **Prairie View A&M** Extension helped Texas producers hurt by drought complete loan applications totaling more than \$4 million. Extension trained another 54 farm families in financial planning and management. Overall, cash flow for each participating farmer and rancher has increased by an average of \$2,100. During drought, **South Dakota State** Extension advised livestock producers to test forages for high nitrate levels, which can kill cattle. Nearly a million dollars worth of cattle were protected from nitrate poisoning with just \$800 in forage testing.
- **Drying out.** Flooding from 1999's Hurricane Floyd destroyed about 300 North Carolina homes and damaged another 900. **North Carolina State** taught homeowners the importance of waiting for wood to dry before rebuilding and gave county building inspectors access to moisture meters that indicated when wood was adequately dry. Building inspectors estimated that by avoiding future moisture problems, homeowners are saving an average of \$19,000 per house — a total savings of \$9.5 million.
- **Recovering from wildfire.** Wildfires ravaged more than 700,000 acres of forest and rangelands across Montana during summer 2000. Most landowners and local land-management professionals were unsure about how to start rehabilitating burned lands. Even as fires raged, **Montana State** Extension organized workshops

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and provided publications for landowners. Participants indicated that the workshops were extremely valuable in starting the fire recovery process.

- **Living with fire.** A collaboration of public and private organizations, including Nevada and California firefighters, is teaching homeowners how to live more safely in a high wildfire-hazard environment. **Nevada** specialists have developed 72 wildfire-rating maps on various vegetation types covering 3,200 square miles for use by developers and firefighters. Recommendations for managing vegetation and creating a buffer zone between houses and dry grass were made to homeowners and landscapers. In 1999, "Living with Fire: A Guide for the Homeowner" was reprinted and inserted into Nevada newspapers. More than 270,000 copies of the publication were printed by 18 other agencies and groups in 12 states.
- **Sturdier structures.** Based on a study of building components and connections, **Virginia Tech** researchers say that design and construction methods should be modified to strengthen future buildings against hurricanes and earthquakes. If the recommendations reduce hurricane and earthquake damage by even as little as 10 percent, the resulting savings to society will be in the high tens of billions of dollars per year.
- **A helping hand.** Florida farmers, business owners and homeowners faced dual challenges of drought and wildfire during summer 1998. **Florida** Extension teamed with public and private organizations to maintain a disaster assistance Web site; publish an insert in Florida Farm Bureau's 110,000-circulation magazine; coordinate distribution of hay donated from other states; stage workshops on stress and financial management; and distribute press releases about the impact of the disasters. Florida's disaster management teleconference attracted an audience at 54 sites nationwide. To replace forage lost to range fires, **Idaho** Extension specialists set up a Web site to connect livestock producers who had available pastures with those who needed them. The Cerro Grande fire in 2000 was the largest and most destructive fire in New Mexico's history, leaving 400 families homeless. To reach Spanish-speaking victims, **California's** Spanish Broadcast and Media Services produced in Spanish fire-related material, including advice on managing

credit after a disaster, dealing with insurance claims and helping children cope with the fire's effects. The information was sent to radio, TV and newspapers in New Mexico and Nevada.

- **Detecting drought.** At the National Drought Mitigation Center, **Nebraska** researchers teamed with USDA and other federal agencies to develop a nationwide drought tracking system, called the Drought Monitor. Launched in 1999, this Web-based monitor combines several drought and water indices in a single colorful map showing where drought is emerging, lingering or subsiding nationwide. Frequent updates highlight trouble spots so state and federal officials can take steps to reduce drought's impacts. More than a million people used the monitor the first year. **Alabama, Florida, Georgia, Oklahoma** and **South Carolina** are among numerous states using the system to better monitor, plan and respond to drought.
- **Ready or not.** The National Weather Service left a gap in 1996 when it discontinued weather programs for agricultural producers. The largely unpredicted freeze of 1997 that hit Florida caused a \$300 million loss in citrus, vegetables and ornamentals. In response, **Florida** scientists developed the Florida Automated Weather Network, an agricultural weather data information service that helps warn the state's \$7 billion fruit and vegetable industry about devastating freezes. Weather data are available 24 hours daily by telephone or the Internet. **North Dakota State** and **California** offer similar services called North Dakota Agricultural Weather Network and California Irrigation Management Information System, respectively.



**Cooperative State Research, Education,
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